

### **REMARKS**

In response to the Office Action of December 19, 2006, Applicant has amended the claims, which when considered with the following remarks, is deemed to place the present application in condition for allowance. Favorable consideration and allowance of all pending claims is respectfully requested. The amendments to the claims have been made in the interest of expediting prosecution of this case. Applicant reserves the right to prosecute the same or similar subject matter in this or another application.

Claims 1-61 are pending. By this Amendment, Claims 1, 2, 5, 9 and 10 have been amended, new Claims 62 and 63 have been added and Claims 18-61, which were withdrawn from consideration due to a restriction requirement, have been canceled herein without prejudice. Applicant respectfully reserves the right to file one or more divisional applications to Claims 18-61. Accordingly, Claims 1-17 are now under examination in this case. Support for new Claims 62 and 63 can be found on page 16, line 21 through page 22, line 2. Applicant respectfully submits that no new matter has been added to this application. Moreover, it is believed that the claims as presented herein places the application in condition for allowance.

Initially, it is noted that no prior art rejections have been made in the Office Action to Claims 7, 14 and 16. Accordingly, Claims 7, 14 and 16 are believed to be in condition for allowance and such is respectfully requested.

The Examiner has rejected Claims 1-16 under the second paragraph of 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner has set forth a

number of specific grounds of rejection under the second paragraph of 35 U.S.C. §112 each of which will be hereinafter addressed in turn.

The Examiner has rejected Claims 1 and 15, and all depending claims, as indefinite for reciting the phrase “the results” in step (c) as there is no antecedent basis for this phrase in step (b) of Claim 1. In order to overcome this rejection, Claim 1 has been amended to “recite measuring the deposit formation of each sample to provide deposit formation data results for each sample”. Support for this amendment can be found throughout the specification and claims, e.g., page 19, lines 11-16. Since Claim 15 depends from Claim 1, the recitation “storing the results of step (b)” also has antecedent basis.

The Examiner has rejected Claim 2 as indefinite for reciting the phrase “and the like.” In order to overcome this rejection, Claim 2 has been amended to delete the phrase “and the like.”

The Examiner has rejected Claim 9 as indefinite for reciting the phrase “a first predetermined temperature” and “a second predetermined temperature.” Claims 5 and 9 have been amended in a manner believed to obviate this rejection. Support for this amendment can be found throughout the specification and claims, e.g., page 19, line 17 through page 20, line 12.

The Examiner has rejected Claim 10 as indefinite for reciting the phrase “the second predetermined temperature” since Claim 1, from which it depends, lacks antecedent basis. Claim 10 has been amended to now depend from Claim 9, thus obviating this rejection.

The Examiner has rejected Claim 14 as indefinite for reciting the phrase “failure or passing of the results” because one of ordinary skill in the art would not reasonably be able

to determine what is considered a failing or a passing of the results and there is no art of record or support in the specification to communicate what is meant by this limitation. In addition, the Examiner states that the specification is objected to for lacking support of the claim limitations of Claim 14. However, as pointed out in *Northern Telecom, Inc. v. Datapoint Corp.*, 15 USPQ2d 1321, 1326 (Fed. Cir. 1990), the original claims as filed are part of the specification and may provide or contribute to compliance with Section 112. Accordingly, since original Claim 14 of the specification states that “a failure or passing of the results”, the claimed phrase can be found within the specification as filed.

Moreover, the specification further sets forth on page 21, lines 8-16 that “an assigned value of deposit formation is programmed into the computer controller for “pass/fail” determination. Assigned pass/fail values can be selected based upon performance requirements for specific fuel applications and prospective operating environments. If the test sample fails by having an excessively high deposit formation value, the test sample can be electronically marked and future testing of fuel formulations having the same composition as the sample can be eliminated from further testing for other performance characteristics.” As such, one skilled in the art would readily understand the recitation “a failure or passing of the results” of the claimed method when analyzing the contents of the specification. Therefore, Claim 14 is believed to be sufficiently clear and definite as to comply with the requirements for definiteness under the second paragraph of 35 U.S.C. §112.

The Examiner has rejected Claim 16 as indefinite for reciting the phrase “as a basis for obtaining a result of further calculations” because one of ordinary skill in the art could not reasonably determine the metes and bounds of the claimed limitation as it is not clear how the results of step (b) would serve as a “basis” or how they are going to be used for “further calculations.” However, it is a well established rule that “whether a claim is invalid for indefiniteness requires a determination whether those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Morton International Inc. v. Cardinal Chemical Co.*, 28 USPQ2d 1190, 1194-95 (CAFC 1993). The specification clearly sets forth on page 19, line 21 through page 21, line 11 two different test methods. In one method, a sample is heated to a predetermined temperature and kept at this temperature for a predetermined period of time in which the weight of the sample is recorded. The sample is further heated to a second predetermined temperature where it is kept for an additional predetermined period of time and the weight of the sample is recorded. The difference in weights from the start to the first predetermined temperature and then from the first predetermined temperature to the second predetermined temperature is recorded and the percent loss, i.e., volatility, is calculated. Thus, it is clear that the results of the weight of the sample recorded after heating the sample to a first predetermined temperature would serve as a basis for further calculations. As such, one skilled in the art would readily understand the recitation “as a basis for obtaining a result of further calculations” of the claimed method when analyzing the contents of the specification. Therefore, Claim 16 is believed to be sufficiently clear and definite as to

comply with the requirements for definiteness under the second paragraph of 35 U.S.C. §112.

For the foregoing reasons, amended Claims 1-16 are believed to be sufficiently clear and definite as to comply with the requirements for definiteness under the second paragraph of 35 U.S.C. §112 and withdrawal of the rejection is respectfully requested.

The Examiner has rejected Claims 1, 2 and 8 under 35 U.S.C. §102(b) as being anticipated by Heneghan et al., JOURNAL OF ENGINEERING FOR GAS TURBINES AND POWER TRANSACTIONS OF THE ASME ("Heneghan et al.").

Heneghan et al. disclose a study of jet fuel thermal stability (carbon deposition rate), dissolved oxygen consumption and methane production for three baseline jet fuels and three fuels blended with additives using a flowing, single-pass heat exchanger test rig. Heneghan et al. further disclose in item 4 on page 481, which is relied upon by the Examiner, that in order to measure the carbon deposition of the sample, the test section of the rig is removed, drained, cut into 25 mm or 50 mm length segments, rinsed with hexane, dried in a vacuum oven and analyzed for carbon deposits on a Leco RC-412 multiphase carbon analyzer.

In contrast to the presently claimed invention, Heneghan et al. fail to disclose a high throughput method for screening fuel additive composition samples, under program control, within the scope of amended Claim 1, comprising (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b).

It is well established that for a claim to be anticipated a single prior art reference must disclose each and every element of the claimed invention. *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 USPQ2d 1766, (Fed. Cir. 1987). The high throughput method, as set forth in the present claims, is conducted under program control such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation. Certainly, nothing in item 4 on page 481 of Heneghan et al., which is relied upon by the Examiner, even remotely discloses a high throughput method conducted under program control. Instead, item 4 on page 481 of Heneghan et al. simply disclose measuring the carbon deposition of a sample in a test section of a rig by removing the test section of the rig, draining the test section, cutting the test section into 25 mm or 50 mm length segments, rinsing the test section with hexane, drying the test section in a vacuum oven and analyzing the test section for carbon deposits on a Leco RC-412 multiphase carbon analyzer. Thus, Heneghan et al. do not disclose all of the elements and limitations of the claimed invention. For the foregoing reasons, Claims 1,2 and 8 are believed to be novel over Heneghan et al. New Claims 62 and 63 are believed to be patentable for at least the same reasons as amended Claim 1. Accordingly, withdrawal of the rejection of Claims 1,2 and 8 under 35 U.S.C. §102(b) is respectfully requested.

The Examiner has rejected Claims 1-6 and 8-11 under 35 U.S.C. §102(b) as being anticipated by Cherpeck U.S. Patent No. 5,399,178 ("Cherpeck '178").

Nowhere does Cherpeck '178 disclose a high throughput method for screening fuel additive composition samples, under program control, comprising, (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel

additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b) as presently recited in amended Claim 1.

Rather, Cherpeck '178 discloses that certain Mannich condensation products provide excellent control of engine deposit, including intake valve deposits, with fewer combustion chamber deposits when employed as fuel additives. Cherpeck '178 further discloses in Example 3, which is relied upon by the Examiner, that the deposit reducing capacity of a Mannich condensation product blended in gasoline were determined in an ASTM/CFR single-cylinder engine test by running the engine for 15 hours, removing the intake valve, washing the intake valve with hexane and weighing it. However, at no point is there any disclosure in Cherpeck '178 of a high throughput method for screening a plurality of fuel additive samples for deposit formation. As stated hereinabove, the high throughput method, as set forth in the present claims, is conducted under program control such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation. Instead, Cherpeck '178 merely discloses individually testing fuel compositions for deposit formation via a non-automated process. As such, amended Claims 1-6 and 8-11 clearly possess novel subject matter relative to Cherpeck '178. New Claims 62 and 63 are believed to be patentable for at least the same reasons as amended Claim 1. Accordingly, withdrawal of the rejection of Claims 1-6 and 8-11 under 35 U.S.C. §102(b) is respectfully requested.

The Examiner has rejected Claims 1-6 and 8-11 under 35 U.S.C. §102(b) as being anticipated by Cherpeck U.S. Patent No. 5,306,315 ("Cherpeck '315").

Nowhere does Cherpeck '315 disclose a high throughput method for screening fuel additive composition samples, under program control, comprising, (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b) as presently recited in amended Claim 1.

Rather, Cherpeck '315 discloses novel poly(vinyl ether) amines and their use in fuel compositions to prevent and control engine deposits. Cherpeck '315 further discloses in Example 14, which is relied upon by the Examiner, that the thermal stability of various test samples was measured by thermogravimetric analysis (TGA) employing a DuPont 951 TGA instrument coupled with a microcomputer for data analysis. However, at no point is there any disclosure in Cherpeck '315 of a high throughput method for screening a plurality of fuel additive samples for deposit formation. As stated hereinabove, the high throughput method, as set forth in the present claims, is conducted under program control such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation. By comparison, Cherpeck '315 merely discloses individually testing fuel compositions for deposit formation via a non-automated process. As such, amended Claims 1-6 and 8-11 clearly possess novel subject matter relative to Cherpeck '315. New Claims 62 and 63 are believed to be patentable for at least the same reasons as amended Claim 1. Accordingly, withdrawal of the rejection of Claims 1-6 and



8-11 under 35 U.S.C. §102(b) is respectfully requested.

The Examiner has rejected Claims 1-6 and 8-11 under 35 U.S.C. §103(a) as being obvious over Cherpeck '178 in view of Burow et al. U.S. Patent Application Publication No. 2002/0090320 ("Burow et al.").

The deficiencies of Cherpeck '178 discussed above with respect to rejection of Claim 1 applies with equal force to this rejection. Burow et al. does not cure and is not cited as curing the deficiencies of Cherpeck '178. In order to cure the deficiencies of Cherpeck '178, the Examiner alleges:

One of ordinary skill in the art would have had a reasonable expectation of success in arriving at the invention as claimed because Cherpeck and Burow are directed to using analytical laboratory instrumentation for chemical analysis. One of ordinary skill in the art would have recognized the advantages of using generic and routine robotic based systems, computers, and remote operations as taught by Burow for the types of chemical analysis of Cherpeck because of the increase throughput provided by these assemblies when dealing with voluminous sample sizes. Accordingly, the invention as a whole is prima facie obvious over the art of record.

However, there must be some teaching, motivation or suggestion to select and combine references relied upon as evidence of obviousness. As is the case here, Cherpeck '178 simply discloses individually testing the deposit reducing capacity of a Mannich condensation product blended in gasoline by running an ASTM/CFR single-cylinder engine for 15 hours, removing the intake valve, washing the intake valve with hexane and weighing the valve. Burow et al. disclose a high throughput processing system for testing test samples of chemical or biochemical compounds, nucleic acids, peptides, polypeptides, proteins, carbohydrates, cells, serum, phage particles, virions, enzymes, cell extracts, lipids,

or antibodies. There is no suggestion, motivation or even a hint in Burow et al. of a high throughput method for testing fuel additives much less testing for deposit formation. Thus, nothing in Burow et al. would even lead one skilled in the art to look to the disclosure of Burow et al. to modify the disclosure of individually testing the deposit reducing capacity of a Mannich condensation product blended in gasoline by running an ASTM/CFR single-cylinder engine of Cherpeck '178 and arrive at the high throughput method, as set forth in the present claims, conducted under program control, such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation.

Accordingly, Claims 1-6 and 8-11 are believed to be nonobvious, and therefore patentable, over Cherpeck '178 and Burow et al. New Claims 62 and 63 are believed to be patentable for at least the same reasons as amended Claim 1. Thus, withdrawal of the rejection of Claims 1-6 and 8-11 under 35 U.S.C. §103(a) is respectfully requested.

For the foregoing reasons, amended Claims 1-17 and new Claims 62 and 63 as presented herein are believed to be in condition for allowance. Such early and favorable action is earnestly solicited.

Respectfully submitted,

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